PROCEEDINGS OF THE FIFTH "ADMINISTRATION AND PUBLIC MANAGEMENT" INTERNATIONAL CONFERENCE
"PUBLIC INSTITUTIONS' CAPACITY TO IMPLEMENT THE ADMINISTRATIVE REFORM PROCESS"
Bucharest, June 23 - 24, 2009

THE ASSESSMENT INDICATORS APPLIED ON HOSPITAL INSTITUTIONS

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Rezumat
Lucrarea abordeaza elementele legate de functia de evaluare aplicata in insitutiile sanitare. Se analizeaza indicatorii de performanta cu privire la activitatile de gestionare a spitalelor. In genere se consideră că, responsabilitatea îngrijirilor ce trebuie acordate pacienţilor, revine în primul rând profesiunilor tradiţionale ale sănătăţii (medici, cadre medii sanitare, infirmiere, farmacişti, alt personal superior sanitar) şi bineînţeles şi personalului administrativ. Comparând valoarea înregistrată de către Spitalul Judeţean de Urgenţă Brăila la acest indicator, de 0,184% faţă de valoarea medie naţională de 0,096%, observăm că la nivelul spitalului proporţia pacienţilor decedaţi la 24 ore de la internare este mai mare decât la nivel naţional..
Cuvinte cheie: evaluare, indicatori de performanta, analiza SWOT

Abstract
The paper approaches up-to-date elements pertaining to the evaluating function applied in the hospital institution. It analyses proficiency indicators with respect to hospital management activities. Generally is considered that the attendants responsibility that must be provided to the patients, it comes primarily to the traditional professions of health (doctors, sanitary academic people, nurses, pharmacists, other superior health staff) and of course to the administrative personnel. Comparing the value recorded by the County Hospital of Emergency Braila at this indicator, of 0,184% versus the national average value of 0,096%, we observe that at the hospital level the proportion of hospital deceased patients at 24 hours from internment is higher than nationally level..
Keywords: Evaluation, proficiency indicators, SWOT analysis

JEL Classification: M12, J21,P36

1. INTRODUCTION

The paper approaches up-to-date elements pertaining to the evaluating function applied in the hospital institution. It analyses proficiency indicators with respect to hospital management activities. Generally is

considered that the attendant's responsibility that must be provided to the patients, it comes primarily to the traditional professions of health and of course to the administrative personnel (Bistriceanu, 2004).

2. PERFORMANCE INDICATORS

The performance indicators of the management, in base of which is negotiated the management contract of the unit manager by order of the minister of health, are: indicators of capacity, management indicators of human resources, indicators of services using, economic-financial indicators, and indicators of quality (Blandu, 2005)

3. INDICATORS OF CAPACITY

The County Hospital of Emergency Braila has a capacity of 1432 beds, beds that are divided as follows:

TABLE 1. BEDS IN THE COUNTY OF EMERGENCE BRAILA DIVIDED ON SPECIALTIES

No. crt.	Specialty	No. beds	No. crt.	Specialty	No. beds	No. crt	Specialty	No. beds
1	ATI	50	11	Endocrinology	25	21	Ophthalmology	45
2	Cardiology	85	12	Gastro enterologie	45	22	Oncology	40
3	Vascular surgery	12	13	Internal medicine I	80	23	ORL	60
4	General surgery I	65	14	Internal medicine II	80	24	Orthopedics	80
5	General surgery II	70	15	Internal medicine III	40	25	Occupational medicine	10
6	General surgery III	25	16	Thoracic surgery	45	26	Urology	45
7	General surgery IV	73	17	Surgery BMF	25	27	Other (Hemodialysis)	9
8	Infant surgery	55	18	Pediatric	75	28	ATI coronary	10
9	Plastic surgery	50	19	Diabetes-Nutrition	31	29	Dermatology	45
10	Neurology	75	20	Nephrology	12	30	Rematologie	70

4. MANAGEMENT INDICATORS OF THE HUMAN RESOURCES

The distribution of the personnel on functions within the hospital, according to the number of posts approved by the Health Ministry is presented as follows:

TABLE 2. DISTRIBUTION OF THE PERSONNEL ON FUNCTIONS WITHIN THE HOSPITAL

Average number of occupied posts in 2007	Sanitary staff			Sanitary Auxiliary personnel		
	Medics	Another persons. superior sanitary	Medium sanitary personnel	Auxiliary sanitary personnel	TESA	Workers
1676	146	21	807	463	124	115

The human resources of the hospital in 2007 are in number of 1676 persons, of which 146 doctors (8,7%), 17 another superior sanitary personnel – including pharmacists, chemists, biologists, biochemist, psychologists (1,2%), 807 medium sanitary personnel, including medical registrars and medical statisticians (418,1%), 463 sanitary auxiliary personnel – including nurses, careers, stretcher bearer – 27,6%), 124 TESA (7,3%), 115 workers(6,8%).

Speaking about the human resources at the hospital level we refer to both the staff of sections/ compartments (providing medical assistance to the patient's bed) and at the staff from the guard room, laboratories, emergency unit arrivals, block operator, sterilization, pharmacy, etc. By the management indicators of the human resources is followed the adequacy of the staff structure on the hospital structures according to necessities for ensuring a medical quality assistance.

TABLE 3. ADEQUACY OF THE STAFF STRUCTURE ON THE HOSPITAL STRUCTURES

Indicator	Average values at hospital level	National average values
Average number of external patients/medic	434.79 patients/year	212 patients/year
Average number of external patients/ average framework	78.7 patients/year	89 patients/year
Number of doctors of the total hospital staff	8.7%	16%
Number of medical staff of total	58.1%	83%
Average number of consultations by a doctor in the guard room UPU	1164	826

Analyzing the share which represents the medic numbers in the total staff of the Emergency Hospital Braila, we observe that this represents approximately half of the national average value at this indicator, fact which is reflected at the indicator level, "average number of external patients/ medic", 434.79 patients/year at the hospital level, compared to 212 patients per year at national level (Blandu, 2005)

We also observe differences at the indicators level "Number of medical staff of the total employed staff" , beside the national average value and implicitly at the indicator " Average number of external patients/ average framework".

In what's concerning the staff that actually work in the hospital sections (at the patients bed), the management indicators of human resources are presented in the table below.

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TABLE 4. STAFF THAT ACTUALLY WORK IN THE HOSPITAL SECTIONS

Section compartment	Operative data				Indicators of human resources management on specialized sections			
	Beds numbe 31.12.0	Number external patients	Medics number in sections with beds	Number of university men in sections with bed	Number beds/medic	Number of beds/ average university men	Number of external patients by a medic	Number of external patients on an average framework
TOTAL	1432	63479	103	473	13.9	3.03	616.3	134.2
ATI	50		11	53	4.5	0.9		
ATI CORONARY	10	289	1	6	10.0	1.7	289.0	48.2
CARDIOLOGY	85	4595	4	25	21.3	3.4	1148.8	183.8
VASCULAR SURGERY	12	380	2	8	6.0	1.5	190.0	47.5
GENERAL	65	2306	4	19	16.3	3.4	576.5	121.4
GENERAL SURGERY II	70	2866	6	22	11.7	3.2	477.7	130.3
GENERAL	25	1969	3	11	8.3	2.3	656.3	179.0
GENERAL	73	2723	4	26	18.3	2.8	680.8	104.7
INFANTIL	55	3901	4	19	13.8	2.9	975.3	205.3
BMF SURGERY	25	1413	2	10	12.5	2.5	706.5	141.3
PLASTIC SURGERY	50	1627	4	19	12.5	2.6	406.8	856
TORACIC	45	1123	3	15	15.0	3.0	374.3	74.9
DIABETES	31	1583	2	10	15.5	3.1	791.5	158.3
ENDOCRINOL0GY	25	1119	1	7	25.0	3.6	1119.0	159.9
GASTROENTEROL.	45	1754	2	13	22.5	3.5	877.0	134.9
INTERNAL	80	3797	5	17	16.0	4.7	759.4	223.4
INTERNAL	80	3952	5	20	16.0	4.0	790.4	197.6
INTERNAL	40	2305	3	10	13.3	4.0	768.3	230.5
NEFROLOGY	12	543	1	4	112.0	3.0	543.0	135.8
NEUROLOGY	75	3871	5	22	15.0	3.4	774.2	176.0
PEDIATRY	75	2852	4	15	18.8	5.0	713.0	190.1
DERMATOLOGIE	45	2853	3	9	15.0	5.0	951.0	317.0
REUMATOLOGIA	70	2870	5	16	14.0	4.4	574.0	179.4
OPHTALMOLOGY	45	2698	4	11	11.3	4.1	674.5	245.3
ONCOLOGY	40	2970	1	9	40.0	4.4	2970.0	330.0
ORL	60	2585	6	16	10.0	3,8	430.8	161.6
ACCIDENT	80	2718	5	29	16.0	2.8	543.6	93.7
WORK MEDICINE	10							
UROLOGY	45	1747	2	14	22.5	3.2	873.5	124.
ALTE	9	70	1	18	9.0	0.5	70.0	3.9

In general it is considered that, the care of patients that must be provided , comes in the first place to traditional professions of health (medics, average sanitary academic, nursery, pharmacists, other health superior personnel) and of course and administrative staff.

To some extent, the responsibility lies to each staff category, fact of which will be taken into account and in the assessing case of health care. Percentage distribution on sections is as follows:

Sections with medical profile: Medics – sections with medical profile with 665 beds are served by 46 medics (representing a share of 44,66% of the total medics from beds sections) returning an average 14,5 beds for a medic and 642,8 patients/ external year/ medic; Average sanitary academics – of the total of 473 average academic that ensures medical assistance at the patient bed, 240 are developing their activity in sections with medical profile (representing a share of 50,74% of total average sanitary academics from beds sections), recording an index of 2,5 bed/ average academic and 123,2 external annual patients/ average academic (Enachescu and Vladescu, 1999)

Sections with surgical profile: Medics – works in the hospital sections with surgical profile having a number of 767 beds for which the medical assistance is ensured by a number of 57 medics (55,3%) returning in average 13,5 beds/medic and 594,9 annual external patients/medic; Sanitary average staff at the beds with surgical profile the medical assistance is ensured by a number of 233 average sanitary cadres (49,26%) with an average of 3,3 beds/ average cadre and 145,5 annual external patients/ average cadre.

5. INDICATORS OF USING THE SERVICES

In 2007 were external 63,479 of patients which have totaled 396,275 hospital days, achieving an utilization index of 276,7 days/ bed annual (75,81%) under the average on Romania (300,0 days / annual bed) and an average duration of hospitalization of 6,24 days on external case versus 6,68 days per external case on the Romania's average.

TABLE 5. THE USING INDICATORS OF HOSPITAL SERVICES IN BRAILA COUNTY HOSPITAL

	Indicators	Total
General indicators of volume and intensity	Number of cases	63.479
	Number of hospitalization days	396.275
	The average duration oh hospitalization	6.24
Indicators of surgical activity	% Surgical cases	26.2%
	%Surgical cases in the surgical sections	48.4%
Indicators of comobrbiditatii	%Cases with secondary diagnostics	83.8%
	The rate of secondary diagnostics	2,8
	% Insured cases	99,7%
Socio – demographic indicators	% Cases in the same county	94,5%
	% Cases in rural	35,3%
	% Cases with age 0-4 years % Cases with age of 5-17 years	4,7% 2,8%

	% Cases with the age of 18 -44 years	32.0%
	% Cases with the age of 45-65 years	35.5%
	% Cases with age over 65 years	25,1%
	% Cases of feminine sex	55,9%
Indicator of the circumstances hospitalization – interment	% emergency internals	*81,5%*
	% internals by inter-hospitalization transfer	0,1%
	% interment with reference to the specialist medic	13.1%
	% interment with reference to the family doctor	5,3%
	% interment at request	0,0%
	% interments in other ways	0,0%
Indicators of ddece circumstances	% Deceased cases	1.9%
	% Deceased cases at 24 h from interment	0,342%

6. THE INDEX OF BED USE

Both the number of hospitalization day or of a bed occupancy in average 276,7 and percentage 75,81%, is less than an optimal of 300 days /bed, optimal that could be achieved if it takes into account the causes that determines this inappropriate utilization. Calculating the number of hospitalization days that could be achieved trough a rational use of beds approx. 31,967 days that at the average length of recorded hospitalization in 2007 would have meant approx. 5,123 patients in plus that could be interment. So in 2007 the number of beds in the hospital weren't used at full capacity (Enachescu and Marcu, 1995)

The sections with low index of use were: Reumatologie (216,7 days/bed), Urology (223,8 days/bed), Gastroenterology (237,3 days/bed), Thoracic Surgery (240,9 days/bed), Endocrinology (242,5 days/bed). Of the total of 30 sections and existing compartments in the hospital some sections realized a using index under the average of 300 days/bed and sections with index using bigger then the average of 300 days/bed.

The average duration of hospitalization of 6,42 days achieved in 2007 can be considered under the average of 2006 (6,53 days) and under the average hospitalization duration recorded per total in Romania in 2007, by 6,86 days. Besides the index of average duration of hospitalization on sections, especially those with along duration of hospitalization, it isn't a very precise standard because the hospitalization days realized in a given period are divided at the existent patients (hospitalized) + interment (Tanasescu, 1998)

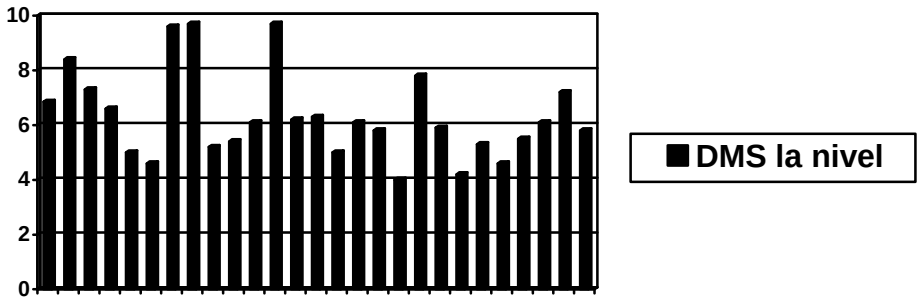

FIGURE1. COMPARISON OF DMS AT THE HOSPITAL SECTION WITH THE AVERAGE NATIONAL VALUES

There are section which according to the specifics, requires an average hospitalization longer period, such as vascular surgery, thoracic surgery, neurology and sections of burnt – with a national average value of 13,64 DMS being bigger leads at increasing the expenditure for the respective sections and also for the entire hospital. Greater differences between DMS is recorded at the plastic surgery and repairing 9,6 versus 6,98 – the national average value' but this is explained trough the fact that within the plastic and repairing surgery section there is a compartment of burnt with 25 beds at which the DMS is largest (13,84 nationally). Also it can be notices differences and at the gastroenterology section (6,1 versus the national average 5,74) for which it isn't any justification, whereas the treated patients in this section usually requires a smaller average duration of hospitalization, those after improving the disease may continue the treatment under the supervision of the cabinet doctor of gastroenterology from the ambulatory of specialty of the hospital. (Tanasescu and Constantinescu, 1999)

Comparing DMS achieved in 10 county emergency hospitals and clinical hospitals from the country, with a national average value recorded in 2007 we observe that DMS vary between 5,02 and 7,46 days.

The lowest DMS was recorded at tht Coltea Clinic Hospital Bucharest, and the biggest by the Emergency hospital Tulcea, followed by the Emergency County Hospital Focsani.

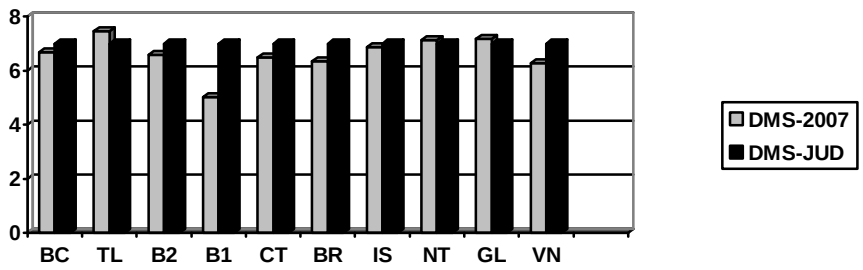

FIGURE 2. DMS IN 2007 IN SOME COUNTY HOSPITALS AND CLINICS

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BC – County Hospital of Emergency Bacau

TL - County Hospital of Emergency Tulcea

B2 – Emergency Clinical Hospital of Emergency Sf. Pantelimon Bucharest

B1 – Clinical Hospital Coltea Bucharest

CT - County Hospital of Emergency Constanta

BR - County Hospital of Emergency Braila

IS – Clinical Hospital of Emergency Iasi

NT - County Hospital of Emergency Piatra Neamt

GL - County Hospital of Emergency Galati

VN - County Hospital of Emergency Focsani

7. INDEX OF CASE COMPLEXITY (CASE MIX INDEX)

At the hospital level in 2007 was realized an index of complexity of the cases in value of 0, 831,6 compared to 0,7700 that was recorded at this indicator at national level.

The complexity index of hospitalized cases in 2007 in the 10 analyzed hospitals varied between 0,6497 Emergency County Hospital Tulcea and 1,371 Clinical hospital Coltea Bucharest. results that the Clinical hospital Coltea Bucharest had an average period of hospitalization the lowest, treating the most complex cases. The County Hospital of Emergency Braila also handles complex cases and has and has an average duration of small hospitalization, the lowest after Clinical Hospital Coltea Bucharest.

TABLE 6. ECONOMIC- FINANCIAL INDICATORS

Budgetary previsions approved according to the budget of revenues and expenditures in 12007, of which:	**5.797,6**	**100,00%**
Personal	2.803,71	48,36%
Materials	2.977,13	51,35%
Capital	167.482	0,29%
Realized expenditures (budgetary execution) in 1007 of which:	4.636,49	100,00%
Personal	2.801,10	60,41%
Materials of which:	1.818,70	39,23%

Drugs	1.568,30	86,00%
Capital	16,75	0,36%
The structure of expenditure according to the sources of income	4.636,50	
Own revenue from the contract with CAS/CNAS	4.410,10	
State budget	7.9,90	
Local budget	41,10	
Another own revenue	105,50	
- donations and sponsorships	6,32	
- medical services at request	991.794	
- healthcare services at home		
Total debt for medicines and sanitary materials over the legal terms of payment (180 dys for medicines and 60 days for sanitary materials):	1.359.591	
At 31.12.2007		

On the basis of the realized expenditures (budgetary execution), can be determined the following economic and financial indicators at the hospital level: Average cost per day of hospitalization on hospital = 739,39; Average cost medicines per pactient = 247,05; Average cost para-clinic per patient = 2,32; Average cost per DRG= 566,49; Expenses with the personnel in the total expenditures = 60,41%; Medicine expenses in the total expenditure = 33,00%. We observe that within the material expenditure, expenses for medicines represents 86% and 33% from the total hospital expenditures, which leads to the creation of debt to suppliers

8. QUALITY INDICATORS

The mortality Intra-hospitalized rate isn't an indicator of efficiency only in correlation with the mortality at home and of course analyzed on affections, and in the case of mortality, operators, on diseases and types of surgical interventions. In 2007 were recorded 1,243 deaths determining an index of hospital mortality of 1,9% deaths at 100 interment patients, in slight decrease compared to 2006 with an index of 2.01% patients leaved and over the country average in 2007 (0,91% leaved patients).

The proportion of deceased patients at 24 hours from interment on total hospital. Comparing the amount recorded by the County Hospital of Emergency Braila at this indicator – 0,342% with the national average value of 0,155%, we observe that at the hospital level the deceased patients' proportion at 24 hours from interment is higher then at national level (Tanasescu, 2001)

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The proportion of deceased patients at 48 hours after interment

Comparing the recorded value by the County Hospital of Emergency Braila at this indicator, of 0.184% versus the national average value of 0,096%, we observe that at the hospital level the proportion of deceased patients at 24 hours from interment is higher than nationally (nearly double). Also, we note that the proportion of deceased patient at 48 from interment is smaller then of those deceased after 24 hours from interment, this highlighting the fact that the patients are presenting in the last moment at the hospital, most often when there is nothing that can be done. This is due to the lack of sanitary education concerning the periodic medical controls and verifying the health check on the other side due to the shortcomings and precarious existing conditions in the hospital. In addition to section/compartments with beds, within the hospital are operating laboratories, the unit of emergency receiving (UPU. operator block, sterilization, etc., as well as and administrative services (kitchen, laundry).

A proper functioning of the hospital in order to achieve better performance indicators involves proper functioning of all related activities of the medical act, and this requires an endowment technical and material relevant to these services (Vacarel and Bercea, 2003)

9. CONCLUSIONS

SWOT Analysis undertaken at the County Hospital of Emergency Braila:

Strengths

the County Hospital of Emergency Braila is sanitary unit with a recognized reputation, being put into service in 1972

- the increased solicitation of the population from the county by reorganizing the other health units in 2006 and of the population of adjacent counties;
- the hospital holds unique inter-county clinical sections on certain clinical specialties;
- the hospital has in its structure ambulatory of specialty for clinical and para-clinical specialties, to which is addressing the patients that don't require interment
- Weaknesses;
- defective financial management and of human resources;
- insufficient funding towards with the expenditures that the hospital records;
- the degree of endowment and the precarious state of the medical equipment from the laboratories of medical imagistic and para-clinical investigations;

- imperfect information system and informational
- Opportunities;
- unlike the other hospitals in the are has a independent location, UPU (receiving emergency unit), with appropriate endowment and personnel specialized in emergency medicine pre-hospital;
- the hospital leases spaces and medical equipment, activity from which result considerable incomes;
- in the hospital structure is a training room that is rented to the public and private sanitary schools;
- the hospital provides up to 52% or more hospital medical assistance for the county residents and offers assistance trough some specialties and to the inhabitants of adjacent counties threats;
- lack of offices on certain clinical specialties in ambulatory;
- lighter and shallowness in the selection activity of the patients at interment;
- non-application the guidelines for medical practice in some departments;
- the deplorable status of cleaning services, food and laundry;
- defective system of medicine release by the hospital paharmacy for the patients from ambulatory;

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